## **Remarks**

Claims 1-13 remain in the application, and claims 14-20 have been newly added.

The specification has been amended to include headings consistent with US practice.

The Abstract of the Disclosure has been amended to eliminate reference numbers, legal phraseology, implied phrases, a reference to a figure.

Claims 1-13 have been amended to eliminate reference numbers and letters, the term "preferably," and features claimed in the alternative. As such, claims 1-13 have been clarified by amendment above for purposes of form. It is respectfully submitted that the amendments to claims 1-13 are neither narrowing nor made for substantial reasons related to patentablity as defined by the Court of Appeals for the Federal Circuit (CAFC) in Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 95-1066 (Fed. Cir. 2000). Therefore, the amendments to claims 1-13 do not create prosecution history estoppel and, as such, the doctrine of equivalents is available for all of the elements of claims 1-13.

Claims 14-20 are newly added. Claim 14 recites features claimed in the alternative in claim 13, claim 15 recites features claimed in the alternative in claim 5, and claim 16 recites features claimed in the alternative in claim 7. Claims 17 and 18 include features claimed in the alternative in claim 8, and claims 19 and 20 recite features claimed in the alternative in claims 9 and 12, respectively.

Consideration and allowance of the claims is respectfully requested.

Attached hereto is a marked up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version With Markings to Show Changes Made."

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Respectfully submitted,

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## VERSION WITH MARKINGS TO SHOW CHANGES MADE

### In The Specification

On page 1, line 4, insert -- 1. Field of the Invention --.

On page 1, line 7, insert -- 2. Discussion of the Background Art --.

### In The Abstract

Please amend the abstract as follows:

[Disclosed is a] A wavemeter [(50)] for determining a wavelength of an incoming optical beam [(100). The wavemeter comprises] includes a coarse-measuring unit [(130)] determining in a first wavelength range a first wavelength value as representing the wavelength of the incoming optical beam, and a fine-measuring unit [(200)] providing a wavelength determination for the incoming optical beam that is ambiguous within the first wavelength range but unambiguous in each of a plurality of unambiguous wavelength ranges, so that a [plurality] number of different wavelength values correspond to a measuring value as measured by the fine measuring unit [for the incoming optical beam]. The wavemeter [further comprises] includes an evaluation unit [(350)] for determining a second wavelength range as [the] one of the [plurality of] unambiguous wavelength ranges that covers the first wavelength value, and for determining a second wavelength value as [the] one of the [plurality of] different wavelength values that corresponds to the measuring value in the second wavelength range. The second wavelength value is output [as measuring result of the wavemeter] representing the wavelength of the incoming optical beam.

[[Fig. 1 for publication]]

### In The Claims

Please amend the claims as follows:

1. (Amended) A wavemeter [(50)] for determining a wavelength of an incoming optical beam [(100)] comprising:

a coarse-measuring unit [(130)] for determining in a first wavelength range and with a first accuracy a first wavelength value as representing the wavelength of the incoming optical beam [(100)],

a fine-measuring unit [(200)] for providing a wavelength determination with a second accuracy for the incoming optical beam [(100)], wherein the wavelength determination is ambiguous within the first wavelength range but unambiguous in each of a plurality of unambiguous wavelength ranges, so that a plurality of different wavelength values correspond to a measuring value as measured by the fine-measuring unit [(200)] for the incoming optical beam [(100)] and wherein the second accuracy is higher than the first accuracy,

an evaluation unit [(350)] for determining a second wavelength range covering the first wavelength value, and for determining a second wavelength value as the one of the plurality of different wavelength values that corresponds to the measuring value in the second wavelength range, and

output means [(360)] for providing the second wavelength value as measuring result of the wavemeter [(50)] representing the wavelength of the incoming optical beam [(100)],

[wherin] wherein the coarse-measuring unit [(130)] comprises one or more materials having a wavelenght-dependency of reflection and/or transmission.

2. (Amended) The wavemeter (50) of claim 1, wherein the fine-measuring unit (200) comprises means for providing a periodic wavelength dependency, preferably an interferometric unit, the periodicity of the wavelength-dependency being larger than a measuring fault or inaccuracy of the coarse-measuring unit [(130)].

3. (Amended) The wavemeter [(50)] of claim 1 [or 2], wherein the coarse-measuring unit [(130)] comprises a dielectric coating having one or more

layers of materials, [preferably] chosen from the group of $MgF_2$, SiO, or $CeF_3$, with different refractive indices and thickness.

4. (Amended) The wavemeter [(50)] of claim 1 [or any one of the claims 2-3], wherein the coarse-measuring unit [(130)] comprises a glass plate with a dielectric coating on one side and an anti-reflection coating on another side, thus representing a wavelength-dependent beamsplitter.

5. (Amended) The wavemeter [(50)] of claim 1 [or any one of the claims 2-4], further comprising an absolute-measuring unit [(300)] having unambiguous wavelength properties, [preferably absolutely known transmission features preferably provided by a gas absorption cell].

6. (Amended) A method for determining a wavelength of an incoming optical beam [(100)] comprising [the steps of]:

[(a)] determining in a first wavelength range and with a first accuracy a first wavelength value as representing the wavelength of the incoming optical beam [(100)],

[(b)] providing a wavelength determination with a second accuracy for the incoming optical beam [(100)], wherein the wavelength determination is ambiguous within the first wavelength range but unambiguous in each of a plurality of unambiguous wavelength ranges, so that a plurality of different wavelength values correspond to a measuring value as measured for the incoming optical beam [(100)], and wherein the second accuracy is higher than the first accuracy,

[(c)] determining a second wavelength range covering the first wavelength value,

[(d)] determining a second wavelength value as the one of the plurality of different wavelength values that corresponds to the measuring value in the second wavelength range, and

[(e)] providing the second wavelength value as measuring result representing the wavelength of the incoming optical beam [(100)].

7. (Amended) The method of claim 6, further comprising [a step of]:

[(f)] providing a reference measurement an absolute-measuring unit [(300)] having unambiguous and absolutely known wavelength properties[, preferably absolutely known transmission features preferably provided by a gas absorption cell].

8. (Amended) The method of claim 7, wherein [step (f)] providing a reference measurement is executed prior to determining in a first wavelength range and with a first accuracy a first wavelength value [step (a) or] for calibration before an actual measurement, [and/or concurrently with step (a) and/or step (b) for providing a continuous calibration preferably during the actual measurement].

9. (Amended) The method of claim 7 [or 8], wherein [step (f)] providing a reference measurement comprises [the steps of]:

[(f1)] sweeping an input signal over a wavelength range wherein the absolute-measuring unit [(300)] has at least one of the unambiguous and absolutely known wavelength properties,

[(f2)] analyzing a measuring result derived from [step (f1)] sweeping an input signal over a wavelength range together with a measuring result derived from [step (a)] determining in a first wavelength range and with a first accuracy, a first wavelength value, and [/or step (b)] providing a wavelength determination with a second accuracy for the incoming optical beam, for determining a relation between the unambiguous and absolutely known wavelength properties and the derived measuring result(s).

10. (Amended) The method of claim 7 [or any one of the claims 8-9], wherein [step (f)] providing a reference measurement is executed for calibrating a wavemeter [(50) according to anyone of the claims 1-5], and/or for adjusting

measuring results as provided by the wavemeter [(50)] said wavemeter comprising:

a coarse-measuring unit for determining in a first wavelength range and with a first accuracy a first wavelength value as representing the wavelength of the incoming optical beam,

a fine-measuring unit for providing a wavelength determination with a second accuracy for the incoming optical beam, wherein the wavelength determination is ambiguous within the first wavelength range but unambiguous in each of a plurality of unambiguous wavelength ranges, so that a plurality of different wavelength values correspond to a measuring value as measured by the fine-measuring unit for the incoming optical beam and wherein the second accuracy is higher than the first accuracy,

an evaluation unit for determining a second wavelength range covering the first wavelength value, and for determining a second wavelength value as the one of the plurality of different wavelength values that corresponds to the measuring value in the second wavelength range, and

output means for providing the second wavelength value as measuring result of the wavemeter representing the wavelength of the incoming optical beam,

wherein the coarse-measuring unit comprises one or more materials having a wavelenght-dependency of reflection and/or transmission.

11. (Amended) The method of claim 7 [or any one of the claims 8-10], wherein [step (c)] determining a second wavelength range covering the first wavelength value comprises [the step of] determining the second wavelength range as a wavelength range around the first wavelength value.

12. (Amended) The method of claim 11, wherein the second wavelength range is determined by adding and subtracting a value[, preferably corresponding to half of the period of the unambiguous wavelength range covering the first wavelength value, to and from the first wavelength value].

13. (Amended) A software product, [preferably stored on a data carrier,] for executing a method for determining a wavelength of an incoming optical beam, [the method of claim 6 or any one of the claims 7-12], when run on a data processing system such as a computer, said method comprising:

determining in a first wavelength range and with a first accuracy a first wavelength value as representing the wavelength of the incoming optical beam,

providing a wavelength determination with a second accuracy for the incoming optical beam, wherein the wavelength determination is ambiguous within the first wavelength range but unambiguous in each of a plurality of unambiguous wavelength ranges, so that a plurality of different wavelength values correspond to a measuring value as measured for the incoming optical beam, and wherein the second accuracy is higher than the first accuracy,

determining a second wavelength range covering the first wavelength value,

determining a second wavelength value as the one of the plurality of different wavelength values that corresponds to the measuring value in the second wavelength range, and

providing the second wavelength value as measuring result representing the wavelength of the incoming optical beam.



Please add the following new claims:

--14. (Newly added) The software product of claim 13, wherein said software product is stored on a data carrier.

15. (Newly added) The wavemeter of claim 1, further comprising an absolute-measuring unit having unambiguous wavelength properties, including absolutely known transmission features provided by a gas absorption cell.

16. (Newly added) The method of claim 6, further comprising:

providing a reference measurement an absolute-measuring unit having unambiguous and absolutely known wavelength properties, including absolutely known transmission features provided by a gas absorption cell.

17. (Newly added) The method of claim 7, wherein providing a reference measurement is executed concurrently with determining in a first wavelength range and with a first accuracy, a first wavelength value, and providing a wavelength determination with a second accuracy for the incoming optical beam, for providing a continuous calibration preferably during the actual measurement.

18. (Newly added) The method of claim 7, wherein providing a reference measurement is executed concurrently with determining in a first wavelength range and with a first accuracy, a first wavelength value, or providing a wavelength determination with a second accuracy for the incoming optical beam, for providing a continuous calibration preferably during the actual measurement.

19. (Newly added) The method of claim 7, wherein providing a reference measurement comprises:

sweeping an input signal over a wavelength range wherein the absolute-measuring unit has at least one of the unambiguous and absolutely known wavelength properties,

analyzing a measuring result derived from sweeping an input signal over a wavelength range together with a measuring result derived from determining in a first wavelength range and with a first accuracy, a first wavelength value, or providing a wavelength determination with a second accuracy for the incoming optical beam, for determining a relation between the unambiguous and absolutely known wavelength properties and the derived measuring result(s).

20. (Newly added) The method of claim 11, wherein the second wavelength range is determined by adding and subtracting a value corresponding to half of the period of the unambiguous wavelength range covering the first wavelength value, to and from the first wavelength value.--